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More Colonies or Manipulation?

DR. C. C. MILLER.

Comb or Extracted Honey?

C. P. DADANT.

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APIARY OF WM. M'EVOT, OF ONTARIO, CANADA.



# AMERICAN ESTABLISHED IN 1861 BEE JOURNAL THE OLDEST BEE-PAPER IN AMERICA

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## Editorial Comments

### Shipping Comb Honey to Market.

Some time ago we were called to examine a small shipment of comb honey that had come to Chicago from a distance of perhaps 300 miles by freight.

It was not properly packed in large crates with straw or hay in the bottom. So the honey was in a dilapidated, broken-down condition. There were several sizes of sections, set in different ways, in the same shipping-case. Honey that was granulated was mixed in with the nice, ungranulated. The whole thing was pretty much of a mix-up. If the dealer got 8 cents a pound for the lot he did well.

And yet we have no doubt the producer who shipped it thought he was sending to market a very fine lot of honey.

It is unfortunate that some bee-keepers will not first try to find out just how to prepare honey for shipping. The result is that on a single shipment they sometimes lose enough to pay for all the books and a year's subscription to all the bee-papers that are published in America to-day.

The best and more experienced bee-keepers are the ones who appreciate current bee-literature the most. Then how much more should the inexperienced value it? It pays to inform oneself thoroughly in one's business or work. There is really no good excuse for any bee-keeper to-day going without all the necessary information. It can be had for so small a cost.

### Patents in Bee-Keeping.

Occasionally there arises one in the bee-keeping line who thinks he has some invention that is going to revolutionize the industry of bee-culture. He therefore patents it. Perhaps in the majority of cases it is a new kind of bee-hive. His special hive will simply compel the bees to store lots of surplus honey! But it is mostly on paper, or "in his mind."

After making a careful examination of all the apian patents ever granted in this country, Editor E. R. Root gives this as the result of his investigation:

Nine-tenths—yes, I am safe in saying ninety-nine percent—of all patents relating to bee-culture have been issued to men—can hardly call them bee-keepers—who have had almost no practical knowledge of the general principles covering hive-construction and the general habits of bees. The great majority of these useless inventions, even if they would accomplish what was expected of them by the brilliant (?) geniuses that evolved them, would have absolutely no sale, for the simple reason that the dear public is not going to pay for something for which it has absolutely no need. Let me give a few illustrations of some of the wonderful (?) inventions.

One inventor got up a hiving-apparatus that consisted of cog-wheels, shafting, chain-gearing, and elaborate frame-work, for dumping a swarm, after it has clustered, into a hive. The whole apparatus would cost a hundred times as much as any swarm is worth. And, just think of it! here was a man who had the temerity to pay out \$100 for a patent covering something he supposed would have a demand! Was he after glory or money?

And then the devices that were gotten up to catch the moth-eater! The amount of brains and time that has been spent on this one subject alone is enough to have made a nice little fortune. We have something like 1500 apicultural patents in our office, which

number comprises the entire list. Probably a fourth of them is devoted to moth-traps—say there are 300; then let us estimate \$100 as the cost of each patent, or \$30,000. This amount went into the hands of patent attorneys. Besides, this is loss of time, which, if it had been spent behind the plow-handle, would have made another fortune.

It does seem as if the general government ought to have an expert to pass on the practicability of some of the subjects that come up for patents. This would afford protection to some fools who need to be saved from themselves, and save thousands of dollars; but it might also throw thousands of quack attorneys out of business.

If there were an expert in each department who would rule out certain inventions that have no value, it would save good dollars, wasted efforts, and blighted hopes. But the government does do something in this line to a certain extent.

We certainly would not try to discourage real inventions, but how silly it is for one, who has had perhaps only a few months' experience with bees, to think that he is able so to improve the hives and other fixtures of bee-dom as to revolutionize the business, and himself command wealth and fame! How very many devices have been patented that never were in sufficient demand to pay the cost of securing the patent. In the twenty years that we have been connected with bee-keeping interests, we can not recall a half-dozen apian inventions that ever paid the expense of having them patented. It's discouraging to would-be inventors in this line, but it is history that is well worth heeding.

### The Uncertainties of Bee-Keeping.

We suppose there is scarcely another calling or occupation that contains so many uncertainties as does that of bee-keeping. But these very probabilities are what give to the subject some of its greatest interest. If all knew in advance just what the future is to be, would they be any better off? Hardly. Often it is a good thing—a blessing—that no one knows definitely what is to happen later on. Of course there are occasions when it might be well to know, but in the great majority of cases we believe it is much better that things are as they are.

Not to know just how matters will result, should be an incentive to do all we can—our very best—in order that whatever the result may be, we can feel that we did what we could—lived up to our best light and endeavor.

The varied uncertainties of bee-keeping come rather harder on the bee-papers than anywhere else. With farming it is different. A man who buys a farm does so with the intention of doing something at that business for a term of years—perhaps for life. But many of those who begin to keep bees do not give them the required attention, and at the proper time. Such seem to think all that is necessary is to buy a few bees, put them in a particular kind of patented hive, and then forget about them until time to take off the honey crop. By that time, if there isn't a hundred pounds or so to the colony, they think bee-keeping doesn't pay!

The fact is, there are too many people who take up bee-keeping just as any other fad that strikes their fancy. For a time "they run well," and then they're "all run down." Perhaps they have bought a bee-book and subscribed for a bee-paper—neither of which has been carefully read and directions followed. The next thing we hear they are "out of the business." No wonder. They never got fully into the business of bee-keeping. The only way to do anything is to do it. It requires determination, and a willingness to apply oneself to the work. "There is no excellence without labor." No success without it, either.

Now, if there are any among our readers who are dilly-dallying



with bees, and yet expect to be successful in the work, better take an inventory at once of your determination to succeed, your enthusiasm in the work, and your willingness to comply with the requirements of the business. If you find yourself lacking in any respect, take a new hold—a better grip—and go forward to win. Others have been successful, so can you be.

### Winter Losses of Bees.

On page 359 we gave a partial report of the losses of bees the past winter as gathered and condensed by Gleanings in Bee-Culture. Since then the following further information has been given out:

In a previous issue I gave a summary of the hundreds and hundreds of reports that had been received from all sections of the country within a radius of a thousand miles of Medina. More reports have come in, largely confirming those first received—namely, that the winter losses for outdoor bees (not indoor) have been exceptionally heavy—probably the heaviest for over 20 years. The losses for the various States stand about the same as those indicated in our last issue, except that Michigan now appears to have suffered the most. Next come Ohio, New York, Pennsylvania, Wisconsin, Indiana. Strangely enough, no severe losses are reported in Illinois and Iowa. The States suffering the most are those bordering on the great lakes; and the one almost entirely surrounded (Michigan) appears to have lost the most bees. The reports go to show further that there are very few losses in any of the districts where the bees were wintered indoors.

Outside of these lake States the losses have been comparatively light except along the Atlantic coast and in a few scattering localities in New England. It appears that the matter of humidity, as well as cold, has something to do with the severe losses among the outdoor bees.

In nearly all the Western States, and all the States south of the Ohio River, the bees have wintered well. In Colorado and Idaho, where it is as cold or colder than the lake regions, the losses appear to be very light.

We have received scarcely any reports from Canada. This seems to indicate that the majority of bee-keepers there winter indoors.

We have received some reports from Canada, which show heavy losses of bees there as well as here. It was a fearfully long winter. In fact, it is still cold here (April 20). But our close proximity to old Lake Michigan has much to do with the late cool temperature these days.

LATER.—Since the foregoing was put in type, Gleanings for April 15 has arrived, and contains the following paragraph:

Winter losses throughout the northern portion of the country are about the same as reported in our last. Michigan and New York, as before, lead off with the heaviest mortalities. Reports are beginning to come in from Canada, showing losses both in Ontario and Quebec—much heavier than usual. Some of the States along the Atlantic coast are reporting anywhere from 30 to 90 percent of the bees dead. The losses still seem to be confined mainly to bees wintered outdoors, and to those bee-keepers who have had a short experience.

## Miscellaneous Items

**A Correction.**—On page 279, in the first column where it reads: "Entrances are enlarged to their fullest extent,  $1\frac{1}{4} \times 12$  inches," it should read  $1\frac{1}{2} \times 17$  inches. With a 12-frame hive a full-width entrance could not be less than that.

Mr. Morley Pettit, of Ontario, Canada, in whose article the above error occurs, wrote us April 18, saying there was a 10-inch fall of snow at his place April 15. They had a sleigh-ride on the 16th. He expects a heavy loss of bees by starvation in his locality. He had fed his own bees, but of course there will be many who are less wise than he. Bees had gathered no pollen up to the time of his writing.

Mr. G. M. Doolittle, of Onondaga Co., N. Y., writing on his 58 birthday, April 14, had this to say:

I have been nearly sick all winter with gripe, or something like it, and about a week ago I was taken very much worse, and had a hard time for five days, but I am getting better now, and hope to soon be up again.

Outdoor-wintered bees have had but one flight since Oct. 30, and that was on April 5, so they were confined to their hives 5 months and 6 days, with the mercury at from zero to 30 degrees below nearly half of the days during the time. We now have about 6 inches of snow, and the mercury goes as low as 16 degrees, Fahr., nearly every night. Ninety percent of the bees left outdoors are dead. Mine are still in the cellar, apparently all right. G. M. DOOLITTLE.



### Pa and Ma and the Bees.

The man that brought the hive of bees first set them by the path (Oh, the bees were full of vigor, and were also full of wrath), An' he said: "It might be better to leave 'em, like es not, Till I hear from Mr. Perkins, where he'd like to have 'em sot;" An' 'bout that time my Ma come out dressed in her Sunday best, An' she tumbled o'er that bee-hive, an'—I hate to tell the rest; For we all got mixed up in it, and the atmosphere was shot With bees an' language of my Pa—an' both of them was hot.

Ma turned to speak to Susan: "Whatever may occur—" Then she tumbled o'er the bee-hive, and it tumbled over her; An' it seems to me I hear it yet, her piercin', curdlin' yell When the bees come out to greet her an' they fired their shot an' shell; An' they prodded with their lances, an' they stung her with their darts On her face an' on her shoulders an' her hands an' other parts; An' Ma kep' on a-yellin' till I thought my blood would freeze; Then Pa come round the corner to see what ailed the bees.

Well, he found out middlin' sudden, for the biggest of the hive First landed on his eyebrow, an' my Pa said: "Man, alive!" Then they peppered him all over, an' settled in his hair, An' his language was disgraceful—it was different from a prayer! Then my Ma an' Pa, united, rolled together on the walk, An' her shrieks, though ruther movin', wasn't touchin' as his talk; While the bees kept stingin', stingin', just as if they meant to say: "You will kindly please to notice that this here's our busy day!"

We turned the fire-hose on them, an' Pa remarked: "It's nice, But I think it would be better if you'd pack us both in ice, For them bees, I want to mention, lest you make a grave mistake, Is the hottest little insect's this side of Brimstone Lake;" An' six days later, when they both had convalesced somewhat, Said Pa: "This weather's warmish, but there's only bees that's hot;" An' he turned to Ma, an' said: "To prove our gratitude, We'll give them bees unto the poor—'twill save 'em coal an' wood!"

—ALFRED J. WATERHOUSE, in *Sunset*.

Dr. C. C. Miller, of McHenry Co., Ill., wrote us April 20, as follows:

What a spring! Here it is April 19, with the thermometer below 40 degrees on a bright, sunny day, and within a week it was down to 22 degrees. I got my bees out April 5, 6, 7, and little chance they have had to fly since. To my surprise I lost some by starvation, although I thought they had abundant stores. So they had for plain cellaring; but I find it's a different proposition with a furnace in the cellar and the temperature averaging 50 degrees, and sometimes running up to 60 degrees. With plenty of ventilation they winter bright and nice, but they eat a good deal more.

Although the bees can not do anything, the clover can, and it's growing right along in the cold. The problem will be to get colonies up to proper strength to take care of it when the bloom comes.

I took out some colonies for a flight March 7, returning them after their flight, and I can't really tell whether they were better or worse for it. C. C. MILLER.

Mr. S. T. Pettit, of Ontario, Canada, wrote as follows April 10:

"We had a big snow-storm last night, and the whole country-side is covered with 'the beautiful' to-day."

We notice by the foregoing that it is still cold over in Canada. We are having a very late spring here in Chicago, also. Bees have had only two or three days up to this date (April 19) on which they could fly at all, since last fall. It is making a very long confinement, and no doubt there will be a heavy loss in bees in this part of the country. It has been too chilly to examine bees that have been wintered outdoors, in order to supply any food that might be necessary to carry them through the spring.

Mr. Herman F. Moore, of Park Ridge, Ill., Deputy Foul Brood Inspector for Illinois, wishes all who have been damaged by foul brood from diseased bees, shipped by one or more queen-breeders or dealers in bees in Southern Illinois, to write to him, stating the facts. This may benefit all interested in bees.

## Convention Proceedings

### Report of the Ontario Bee-Keepers' Convention Held in Trenton, Dec. 1, 2, and 3, 1903.

BY MORLEY PETTIT.

(Continued from page 294.)

#### REPORT OF THE INSPECTOR OF APIARIES.

During 1903 I visited bee-yards in the counties of Huron, Middlesex, Perth, Brant, Peel, York, Ontario, Simcoe, Norfolk, Haldimand, Victoria, Lanark, Leeds and Russell. I inspected 96 apiaries, and found foul brood in 28 of them, and dead brood of other kinds in many others, which had been mistaken foul brood. Some of the dead brood was the result of spraying fruit-trees while in bloom, and in other places I found it to be starved brood, and not foul brood at all. I received orders to go to certain localities as soon as possible, where some men claimed that they had located several cases of foul brood. When I got there I found that the big losses in bees were the result of starvation. After that I received orders to go to other localities where several apiaries were said to be very bad with foul brood, and when I got there and examined every colony I found them completely cured, and not a trace of the disease left.

No Province or State in the world was in as bad a condition with foul brood as Ontario was when I was first made apiary inspector of the Province, 13 years ago last spring. It took time to get the people taught so that they could cure all diseased apiaries by my methods of treatment from May to October, and at the finish to have every colony in first-class condition since that time. It is over 28 years since I discovered how to cure any foul-broody apiary from May to October. If I had been able to cure only during the honey season I never would have accomplished much, or have been of much use to the Province if I had not been able to finish up the curing with my fall treatment, where the mistakes were made.

I have driven over 90 percent of the disease out of the Province since 1890, and if the bee-keepers had sent me in a list of the diseased apiaries like they used to do, so as to give me a chance to know where the disease was, and then helped like they should have done, by this time I would have had the disease all out, or nearly so.

No man in Ontario knows the true condition of things as well as I do, and I positively declare that Ontario has not one-tenth of the diseased apiaries now that she had ten years ago. The disease is now completely under control, and all that any person has to do is to send in a list of the diseased apiaries, and have them cured, and cured in the most profitable way, at that.

WM. McEVoy.

J. C. Morrison—Mr. McEvoy has done a great deal for bee-keepers of Ontario, and personally I have been in the past indebted to him for help in getting rid of the disease. The McEvoy cure is the cure, and McEvoy is the man for inspector; but when he tells us that foul brood is on the decrease in Ontario, I think we are justified in criticising the statement. He told us at Barrie, in 1902, that it was stamped out except in the northern country. In the early part of this year, in a letter to the press, he says that there are a few diseased apiaries in the county of Norfolk, a few in Simcoe, a few in Western Ontario, and some Down East. Instead of only in the North, it is decreasing by spreading east, west, and south. Foul brood on the decrease? So are bee-keepers. Five years ago Mr. McEvoy cleaned the apiary of John Kidd; this year foul brood cleaned him. Five years ago he cleaned an apiary at Craighurst; this year he cleaned the same apiary by the firing method, and justly so. This year, in our own county of Simcoe, we find it in Beeton, Cookstown, Egbert, Alliston, Craighurst, and Jarrats Corners. Look for a moment at the decrease as shown in his reports. He visited in—

1899	in 13 counties	126	apiaries of which 40 were foul.
1900	" 12 "	100	" " 30 " "
1901	" 12 "	77	" " 29 " "
1902	" 12 "	91	" " 30 " "
1903	" 14 "	96	" " 28 " "

How long at this rate will it take to clean Ontario?

Mr. Holtermann stated that the report sent out by the inspector during the past year was entirely incorrect. He knew of the disease in north and south Norfolk; it was very bad there, many apiaries had robbed out. It was in Brant, in Muskoka, Grey, York, Perth—something must be done. The law required amendments, and it had not been upheld by the officers of the Association. Bee-keepers did not know any longer to whom to write. All was confusion. Some were afraid to criticise McEvoy for fear of the harm he could do them. No better man could be found for Mr. McEvoy's position if he would act in an impartial, fair, and thorough manner.

The general feeling was that the duties of Foul Brood Inspector of Ontario were too great for one man, even of Mr. McEvoy's ability. The latter admitted that in some things he had overstepped his authority.

The following were appointed a committee to revise the Foul Brood Act: Messrs. Wm. McEvoy, J. L. Byer, J. C. Morrison, R. F. Holtermann and Jas. Armstrong.

Messrs. McEvoy and Byer withdrew from the committee.

ADDRESS BY PROF. C. C. JAMES.

Prof. C. C. James, Deputy Minister of Agriculture, delivered an address in the evening. He said he was very pleased to be present at this convention of bee-men. It was the wish of the Department to keep in close touch with all that was being done by the various agricultural associations. He and Mr. Dryden had often remarked in looking over the reports that the members of this Association appeared to be living up to the business. The discussions appeared to contain both the sting and the honey of the bees. He was glad to see that the members, even in a heated discussion, did not forget to act the gentleman.

Your secretary, said Prof. James, has a letter from the Minister of Agriculture, suggesting an exhibit similar to the annual Guelph Live Stock Exhibition. This is the greatest educational Fair held on the continent. We have thought that a Fair might be inaugurated for fruit and honey interests. We may have a Fruit Fair next year, showing fruit and implements used in fruit-growing, etc. Let the bee-keepers join in with it. It would be a fine thing to have an exhibit of fruit, honey and flowers at Toronto next year, and have the annual meeting there at the same time as the fruit-growers meet. We would, of course, need to start on a small scale.

The Professor expressed regret that this body of men came to Trenton so late in the year, when the natural beauties of the place were obscured by winter. The gateway to one of the most beautiful spots in all Canada is Trenton. It is historic ground. Years ago the French fur-traders went up and down through the Trent valley. It is almost 120 years since the first settlers came in. Surveyors came up from Quebec to lay out the country for United Empire Loyalists early in 1784; and 1784 to 1904 is 120 years.

The agricultural development here is one of great progress and interest. It is a matter for regret that our school text-books make no reference to this. Too much attention is given to political development. Surveyors began at Kingston, numbering the townships as they went. Unfortunately these numbers have been replaced by names in later years.

From 1784 to 1814, a period of 30 years, or one generation, methods of agriculture were very crude. They had to cut down the trees to get at the land, and their principal products were timber and ashes. These were exported to the United States, the timber being floated down the streams.

From 1814 to 1844 they had cleared enough land to grow grain for export. Then wheat was King.

During the third generation—1844 to 1874—there was a great movement to this country from England, Scotland and Ireland. After the conclusion of the Napoleonic wars the disbanded soldiers became the beginners of a great stream of immigration. As these counties are the homes of the best breeds of live stock, the immigrants brought with them the nuclei of our choice herds of the present day.

The fourth generation—1874 to 1904—is noted for its great development in the production of more finished articles, such as cheese, butter, eggs, fruit, honey. To produce and market these profitably special organizations have sprung up, so that we have live stock, dairy, poultry, fruit, and honey interests, represented by special associations.

The question naturally arises, What shall the next generation bring forth? This is no longer a grain-growing country. Ontario stock-breeders annually sweep the boards at the Chicago Live Stock Show. How is it? To start with, we have a country eminently adapted to stock-



raising. We have the soil, climate and water. Here, as nowhere else on the North American Continent, are men likely to continue to specialize along this line. In fruit-growing the possibilities are unlimited. Alongside the development of the fruit market we must work honey as well. There is an unlimited market for first-class goods, not for second-class. We should not produce second-class fruit nor honey. There is only one way of keeping the market, that is, keep the quality up.

High railroad rates are at present a great hindrance. The government will probably have a railroad commission soon, and this Association should have a committee ready prepared to meet it.

A vote of thanks was tendered Prof. James for his excellent address.

A railroad committee was appointed.

#### OFFICERS FOR 1904.

The officers for 1904 were elected as follows:

President, J. W. Sparling; 1st vice-president, H. G. Sibbald; 2d vice-president, R. H. Smith; directors: District No. 1, W. J. Brown; No. 2, J. K. Darling; No. 3, M. B. Holmes; No. 4, C. W. Post; No. 5, J. W. Sparling; No. 6, H. G. Sibbald; No. 7, Geo. Wood; No. 8, Jas. Armstrong; No. 9, R. H. Smith; No. 10, G. A. Deadman; No. 11, J. F. Miller; No. 12, Samuel Wood; Ontario Agricultural College, Prof. F. C. Harrison; inspector of apiaries, Wm. McEvoy; and assistant inspector, F. A. Gemmill.

It was decided to withdraw the grant and representatives from London, Toronto, and Ottawa fairs.

Committee to revise report: Messrs. Sibbald and Pettit.

Auditors: Messrs. Nolan and Byer.

Next place of meeting, Toronto.

Mr. Fixter, of the Ottawa Experimental Farm, described a fancy trophy of Canadian honey to be put up at the Louisiana Purchase Exposition at St. Louis in 1904.

It was decided to offer every encouragement to the St. Louis Exposition.

The report of the committee to revise the Foul Brood Act was then taken up. The report was adopted without a dissenting voice, the main change being the appointing of sub-inspectors in organized districts.

The Secretary read a communication from Prof. Harrison, stating that he had not been supplied with specimens of foul brood to continue his study of the disease. It was moved by Messrs. Holtermann and Couse that this matter be not neglected next year.

The Transportation Committee appointed to meet the Railroad Commission consists of Messrs. Lott and Couse.

The convention then adjourned to meet at Toronto in 1904.

## Contributed Articles

### More Colonies or More Manipulation—Which?

BY DR. C. C. MILLER.

**M**R. TOWNSEND thinks it better to increase the number of colonies and avoid extra manipulation. Mr. Doolittle thinks it better to increase manipulation rather than colonies—page 247. When two such successful and experienced practitioners hold exactly opposite views "the point is worth considering" a little farther.

Is it not possible that both gentlemen are right, each from his own standpoint? Mr. Townsend, if I am not mistaken, is located where it is easy for him to increase the number of his colonies or his apiaries to a considerable extent without any fear of overstocking, while in Mr. Doolittle's locality the field has been for years pretty fully occupied.

Suppose that Mr. Townsend has only 100 colonies instead of his present number, and suppose that by manipulation (including in that term spreading of brood and stimulative feeding) he can increase the crop stored by those 100 colonies one-fourth. Please don't understand that one-fourth is the amount of the increased harvest that manipulation will secure; I don't know what it is, but the argument will be the same whether it be one-fourth or one-

fortieth. Mr. Townsend does not need to consider the question of nectar—nectar will go to waste were there twice as many bees; so it seems clear that with one-fourth more colonies he ought to get one-fourth more honey; and the only question for him is whether it is easier to care for 100 colonies with manipulation, or 125 without. Evidently he takes the latter view.

Suppose Mr. Doolittle has 100 colonies where manipulation will make that 100 colonies exhaust all the nectar within reach; in such a case he has shown quite clearly (page 247) that more colonies mean less money for him; and Mr. Doolittle has done good service in calling attention to the importance of a factor too little considered—the amount of honey consumed by the bees themselves. Observations at the Swiss experiment stations, if I remember correctly, put the annual consumption of honey by a colony of bees at 70 pounds, which, although, much smaller than the estimate of Mr. Getaz and Mr. Doolittle, is probably much larger than the amount the generality of bee-keepers have thought of, if indeed they have given it any thought at all.

For each bee-keeper, then, in considering whether he stands with Mr. Townsend or Mr. Doolittle, comes first the question, "Is there plenty of nectar available so that after increasing there will still be more than the bees can gather for both themselves and me?" With the majority of bee-keepers the danger-point has not yet been approached, probably; and with a great many the increase of colonies may be carried to such a point as to make the increase of harvest much beyond what manipulation could bring without such increase.

In some cases there might be both increase of colonies and all the added stores to be secured from extra manipulation. With some, who have an unlimited field and limited time to care for colonies, the most profitable way would be to have the full number of colonies that could be cared for without extra manipulation. Mr. Doolittle's friend who proposed to double his number of colonies and lessen the amount of labor with each, was probably right in thinking this would give him more honey, if after the doubling of colonies there was still more nectar than the bees could gather.

In making a case, Mr. Doolittle makes it a little too strong in one point. He calls attention to the increased amount of honey that an increased number of colonies would need for their own consumption, but ignores the increased amount needed for the increase of bees secured by extra manipulation. It must not be forgotten that in each case there is an increase of bees, and if there be the same increase of bees by one method as by the other, then there will be exactly the same increase of consumption. Although that argument is thus ruled out, there is still an advantage left Mr. Doolittle in the fact that stronger colonies store more honey in proportion to the number of bees. A colony of 50,000 bees will give more surplus than the same number of bees in two colonies, because a smaller number of bees will be needed to do the homework of the larger proportion of gatherers in the large colony.

After all this has been said, there still remains an important point that is "worth considering." Are we always sure of increased stores from the extra manipulation? In this locality, at the time such manipulation would be effective, there is already in the hive all the brood the bees can cover in most colonies, in which case spreading brood can only mean chilled brood. Spreading brood and stimulative feeding are two pretty safe things for beginners to let alone, at least in most localities. McHenry Co., Ill.

### No. 5.—Comb or Extracted Honey—Which?

BY C. P. DADANT.

**T**HE greatest disadvantage, I might say the only disadvantage, in producing extracted honey is in the selling of it. "Strained" honey in this country originally acquired an unenviable reputation, at first, from its having been produced by squeezing the honey out of the combs of colonies caught in the woods, from bee-trees. This honey was often mixed with pollen and residue, and more or less cloudy, therefore inferior. Then with the discovery of the extractor and the production of clean liquid honey on a large scale, the temptation to imitate it by adulterating it or even by selling pure glucose under the name of honey by unprincipled dealers gave another warning against it to the consumer. On the other hand, very few people knew that honey in the liquid state granulates in cold weather, and a very great prejudice formed immediately against honey

which, some consumer put it, "seems to be all sugar." But wherever the consumers were acquainted with the methods of production and the quality of the article, the sale was unlimited. There would be no end to the sale, and prices would be very good, and, in fact, as high as those of comb honey, if all the people could be convinced by plain evidence that the honey offered is pure and wholesome.

It is true that there is suspicion, as well, regarding the purity of comb honey, and we often meet people who look upon sealed comb in sections with distrust, as if they expected to see a trace of the mold in which it was cast; but this very unreasonable suspicion which has been brought about by silly newspaper stories, is easily overcome. It is sufficient to call the attention of the consumer to the constant irregularity of the combs in sections—of which no two are alike—to convince them that no human hand has ever built them, filled them and sealed them. For the combs of the bees are another example of the wonders of Nature—variety in uniformity.

With extracted honey, the only evidence that the buyer can have of the purity of the honey he purchases is his own palate. If he will taste honey and adulterated sweets, side by side, he can soon be convinced, by the sweetness of the former and the lack of it in the latter; but how many consumers rely on their own sense of taste?

So in the selling of extracted honey we have to stumble every day on fresh obstacles. In every new field we have the same objections, the same accusations of dishonesty, however groundless they be. It takes years after years in the same market to put the stamp of genuineness on our goods. But when this is achieved, the sales are easy and large. In our immediate vicinity, some 35 years ago, it was difficult to get rid of a few hundred pounds of extracted honey. To-day more than five times the number of bees are kept, and although extracted honey is harvested in large quantities it sells readily. But every one who will begin the production of this article will have the same objections to overcome, in his surroundings.

There is another danger in the production of extracted honey, and that is the harvesting and selling of an unripe article. When the honey-extractor was first discovered it seemed as if all that had to be done was to make the rounds of the apiary every other day and remove the surplus. By such a method a very large amount of nectar was harvested, but it was soon ascertained that this nectar was unfit for keeping. The only method by which we can make sure of a good article is the method of leaving the honey on the hive long enough to ripen it partly, at least. Honey harvested a little too soon may be bettered by keeping it for the rest of summer in a hot place where it will have a chance to evaporate its extra moisture, but it is preferable to leave this work to the bees as long as possible. In dry, hot seasons, a fair result may be expected by artificial ripening, but in cool climates or wet honey seasons it is difficult, if not impossible, to obtain any results that prove entirely satisfactory.

There is however a difference not only in the atmospheric conditions but also in the kinds of honey. Some grades of honey ripen readily, and rarely seem to be overloaded with moisture. In this vicinity, I will refer to Spanish-needle honey, which seems to be fully ripened almost as soon as it is taken in by the bees; while basswood honey, though harvested in the hottest weather and kept through August and September, very often proves too thin for regular granulation. When honey is insufficiently ripened it is in danger of fermentation, which more or less damages its flavor. It does not granulate evenly, hardening in lumps that become surrounded by the more liquid portion of the nectar. Although in this shape it may be very palatable and desirable for prompt use, such honey will not safely pass through the following summer.

One of the oldest and most practical bee-keepers of America, L. C. Root, son-in-law of Mr. Quinby, was the first bee-keeper, to my knowledge, who attracted our attention to the fact that ripe honey was slow to granulate, and that the grades that granulated latest in the season and with the finest grain were the best for keeping. This has proven correct. When our crop of clover honey hardens in a regular mass, resembling butter in texture, with no liquid portion separated from it, we may be sure that the honey is well ripened and safe to preserve, if not exposed to moisture later. But when the grains are coarse, resembling lumps of sugar, with more or less liquid surrounding them, we have a honey that although good for present consumption will not be likely to stand the changes of temperature without danger of fermentation.

Hancock Co., Ill.

## Hasty's Afterthoughts

The "Old Reliable" seen through New and Unreliable Glasses.  
By E. E. HASTY, Sta. B Rural, Toledo, Ohio.

### WOMAN—HER POSITION AND WAYS.

I note with considerable interest, perhaps with a little surprise also, what Mr. Roe says on page 267. Of course, it is a matter of some importance to decide what is a proper subject for playful sport, and what is too sacred for any such treatment. All malignity being barred of course, must Woman in all her moods and tenses—and duds—be forever exempt? I think that only a small minority of intelligent women, such as read bee-papers, will support Mr. Roe's complaints. If a majority of them honestly object, I shall think it time to consider the subject of reforming my style. His largest error is in feeling (I say *feeling*, not thinking) as if the position of Woman, as a prime factor of Civilization and Faith, is something less than rooted and grounded like the everlasting hills. Practically all good men confess the like of that, Mr. Roe, so don't be nervous. If I shoot a pea at Mt. St. Helens, by blowing it through a tube, Mt. St. Helens isn't going to suffer any serious damage. Even its reputation as the most saint-like mountain in the world is going to be pretty much the same after I shot the pea as before. Most people (seems to me) take this into consideration to start with, and therefore do not object to my shooting the peas—would rather I'd shoot 'em than not.

Mr. Roe rather makes another mistake in thinking that my personal and inner spirit is one of contempt or indifference. I hardly need (I think) to be reminded that I had a mother, and a baby sister, whose early death powerfully influenced my whole life, and "another, not a sister," who died 18 years ago. For that 18 years I have not once even seen in print that name, which is not written here on this page, without more or less of a thrill. If you don't look out, Mr. Roe, I shall be hauling you up before the bar charged with cruelty.

Mrs. H.'s costume was pretty. Bridal costumes are apt to be pretty—also preposterous. We might consent that a dress to be worn only once in a lifetime might be preposterous were not the "critters" so much inclined to have all their other costumes preposterous, too. Just think once what feminine costumes might get to be if not redeemed by the saving grace of brotherly criticism.

### PACKING-CASES FOR BEES.

How many are the styles that even so simple a thing as a packing-case is capable of! Not long ago we had one designed to go through winter without any packing. Now we have one to be left out all summer after packing is taken out. This one also is made to move at two lifts, by ripping the lower 12 inches separate. Nice to obviate the need of a hive-cover—providing, that is, that the tar-paper continues impervious all summer. A. J. Kilgore, page 183.

### THE BEE-KEEPER WHO WRONGFULLY CROWDS.

And so to mitigate our absolute nothing but talk, we have one State society that will not take as a member a bee-keeper who wrongfully crowds upon a previous apiary. Not bad for a beginning at discipline—and let Idaho have the honor due. Page 196.

### "CONSECUTIVE POLYGMAY."

Sorry to see "consecutive polygamy" getting started among our bee-editors. Willing to hope that there may be mitigating considerations in the case not visible to a casual glance. Page 196.

"The Hum of the Bees in the Apple-Tree Bloom" is the name of the finest bee-keeper's song—words by Hon. Eugene Secor and music by Dr. C. C. Miller. This is thought by some to be the best bee-song yet written by Mr. Secor and Dr. Miller. It is, indeed, a "hummer." We can furnish a single copy of it postpaid, for 10 cents, or 3 copies for 25 cents. Or, we will mail a half-dozen copies of it for sending us one new yearly subscription to the American Bee Journal at \$1.00.



## Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

### Replacing Lost Colonies of Bees.

DEAR MISS WILSON:—What would you do if you had lost all of your bees excepting 2 colonies (saved 2 out of 12), and wanted to increase them as rapidly as possible, rearing your own queens?

This has been the coldest winter on record in Connecticut, and almost everybody has lost half, if not all, of their bees, in this part of the State. I enclose a clipping from the Danbury News, written by Mr. H. L. Jeffrey.

The 2 colonies I have left have queens from Dr. Miller's stock. Why they did not die I can not tell, as they were packed exactly the same.

I enjoy the Sisters' column very much, and find it very helpful.

FLORENCE W. SAGENDORF.

Field Co., Conn., March 25.

Just what would be the best way for you may not be easily told. In the first place, I should read up all the literature on hand pertaining to the subject in books and bee-papers, and then try to decide which plan I could work best. In Dr. Miller's "Forty Years Among the Bees" you will find some practical instruction on the subject, pages 252-261.

In any case, the first thing is to let the colonies become strong. Nothing will be gained, and something may be lost, by attempting division too early. Here is one plan you may follow:

If there is a difference in queens, suppose No. 1 has the best queen. When both colonies are fairly strong, each having five or six frames of brood, take from No. 2 one or two frames of the ripest brood and exchange with No. 1 for frames with younger brood, or perhaps with little or no brood. Perhaps a week later the same thing may be repeated. Thus No. 1 will be likely to swarm earlier. When it swarms, give the swarm on a new stand. A week later divide the old colony into nuclei, giving each nucleus two frames of brood with adhering bees, leaving on the old stand only one frame of brood, as it will have the lion's share of bees. See that each nucleus has one or more queen-cells located where they will be sure to be kept warm.

Perhaps the colony will not swarm, and you must then take matters into your own hands. Possibly that may be all the better. You will add brood to No. 1 from No. 2, as before mentioned, but in drawing brood never leave less than four frames of brood in the one you draw from. Thus you can bring No. 1 up to perhaps 8 or more brood, giving a second story if necessary. When sufficiently strong, with weather and forage favoring, take a frame of brood with adhering bees and the queen, as a nucleus on a stand, of course adding one or two combs with some honey. Eight to ten days later divide the old colony into nuclei, as before mentioned, putting one of the nuclei (this nucleus will need only one frame of brood) in place of the queen, returning the hive with the old queen to the old stand. Draw brood from time to time from No. 2 for No. 1, till No. 1 again becomes very strong, when the process may be repeated. As the season becomes later, make your nuclei stronger, perhaps helping from the earlier nuclei, and be sure not to be caught with a lot of weaklings at the close of the season.

The clipping referred to in the letter above, reads as follows, being dated March 24:

According to Henry Jeffrey, expert in bee-culture of Litchfield County, fully 80 percent, and perhaps more, of the honey-bees in this section are dead, having starved, the honey on which they would naturally feed having been solidly frozen during the continuous cold weather of January and February, when the thermometer on 33 mornings was below zero, and on two mornings 40 below, as against only three days below zero in all the winter before.

Throughout this section there is plenty of snow left yet, having been on the ground continuously for 90 days. No one in this section can recall as severe a winter as the one just passed.

**Maple Sugar and the Sugar Bush**, by Prof. A. J. Cook; 44 pages; price, postpaid, 30 cents. This is by the same author as "The Bee-Keepers' Guide," and is most valuable to all who are interested in the product of our sugar-maples. No one who makes maple sugar or syrup should be without it. Order from the office of the American Bee Journal.

## Dr. Miller's Answers

Send Questions either to the office of the American Bee Journal, or to Dr. C. C. Miller, Marengo, Ill.

### Queen-Cell Among Drone-Brood.

In overhauling a friend's bees to-day, I had a new experience. I found a colony that was queenless (at least no queen was noticed), and no brood was found in any of the combs, excepting a small quantity of drone-brood sealed up. Ninety-six drone-cells, actual count, and 1 sealed queen-cell, no worker-brood at all. The queen-cell was right among the sealed drone-cells.

1. Now, where did those drone-cells come from?

2. Is it possible that a laying worker deposited those eggs in the drone-cells, and the bees realizing their queenlessness endeavored to rear a queen out of a drone-egg?

3. Is this a very common occurrence, i. e., to find queen-cells started among drone-comb? VIRGINIA.

ANSWERS.—1 and 2. It is not only possible but probable that not only a laying worker but a number of them were present, and that the bees attempted to rear a queen just as you have suggested.

3. It may be expected wherever laying workers are present.

### Rendering Combs in a Sun Wax-Extractor.

1. I am going to have a sun wax-extractor. Please tell me how to use it.

2. I have some drone-brood combs; they are new combs left from last year in which the bees died. Part of the combs are filled with dead bees and honey. Can I put them in the extractor?

3. Is it good to put water in the pan for the settlings?

4. If the comb is put through the sun extractor once, and not clean, can it be put through again? IOWA.

ANSWERS.—1. You will probably get instructions with the extractor, although the working hardly needs instruction. Simply place the extractor in a sunny place facing south, and if you want to hurry up the melting turn it at different times to face the sun.

2. Yes, but it will be better without the dead bees. Perhaps if well dried you can shake them out; especially as worker-bees fit rather loosely in drone-combs.

3. Yes.

4. Yes, but if you put in old combs you can't get the wax out clean without some kind of a press. If old comb is broken up fine and thoroughly soaked with water, you will get more wax out of it; for the cocoons soak up the wax something like a sponge. If old comb is put in whole, have only one layer at a time.

### Superseding and Introducing Queens—Queen-Clipping Device.

1. Kindly "diagnose" this condition of bee-hive abnormality if it is abnormal at all: Four days ago I opened my best colony and used smoke to quiet the bees. I used a smoker that a neighbor burnt brimstone in last fall and which still, though cleaned well, retains the odor of brimstone. Fuel used was rotten wood. On opening the hive I found the bees balling the queen. I closed it rapidly. To-day—four days afterward—I find two queen-cells started. There is an abundance of brood, and the hive is boiling over with bees. I have used stimulative feeding, two or three times. There are to my mind two hypotheses: Either the bees and queen became unduly excited, or the bees were about superseding the queen. I call you into consultation in the case.

2. I have taken from my cellar in fine shape 53 colonies. There are only two queens dead. I have just sent South for two queens. Now, I have 2 observatory hives. How would it be to introduce each queen into an observatory hive, and in a few days, if well received, introduce the comb from the observatory hive into the queenless colony? I do not suppose there would be any trouble about introducing, but it seems this plan would make assurance doubly sure.

3. I still have quite a little difficulty in finding the queen. Is it better to wait for a hot day when most bees are on the wing?

4. Do you recommend any queen-clipping device that could be used to slip down on the queen and hold her on the combs whilst clipping? IOWA.

ANSWERS.—1. It does not often happen that a queen is superseded early in the season in a colony well stocked with bees and brood; and if she is superseded, she will continue laying until the young queen emerges, or longer. You can decide by examining the queen-cells. If it was a case of superseding, you will find pre-constructed cells; that is, the bottom of the cell will be greater in diameter than a worker-cell. If you find a worker-cell at the bottom of the queen-cell, then it is a post-constructed or emergency cell, and you may know that the cell was built because the queen was dead, or because they were afraid she would be. It is not an unusual thing for a queen to be balled when the bees are disturbed, especially in spring, perhaps for her safety, and as soon as the excitement is over the queen is re-



leased, yet in their eagerness to protect the queen they may carry the thing too far, causing her death. Cells may be started when the queen is first balled, and then when she is released they may or may not be torn down. It is possible that the queen was alive and well, unless you saw her dead body. Of course you can decide easily by this time, as there will be eggs if the queen is all right.

2. Your plan will tend to greater assurance of safety.

3. Yes, it will be easier for you and safer for the queen. Don't fool with bees when they are not flying freely, anyway.

4. That depends. One who has been in the habit of catching the queen, after clipping hundreds, would hardly be bothered with anything of the kind, but it might be quite a help to many who have not had such experience.

### Fastening Comb Foundation In Sections.

In reading your book, "Forty Years Among the Bees," I have come to the conclusion that you can put foundation in sections better than I can. I am a beginner, and fastening foundation in the sections bothers me more than anything else. I use the Daisy foundation fastener, and do the best I can, and carry the supers from the shop to the hives as though I had soap-bubbles, the foundation in some of them will come out. The  $4\frac{1}{2} \times 4\frac{1}{2}$  sections are not as bad about it as the  $4 \times 5$ . If you will tell me how to put foundation in sections so I can put the supers in a wagon and drive to an out-apiary, it will be a great help to me. OHIO.

ANSWERS.—When you vigorously shake a super of sections, the foundation should be so well fastened that none drops out. It is possible that you don't have enough heat. Turn up your lamp so that the plate will be so hot that the wax will begin to melt as quickly as it touches. Of course you must move rather lively or more will be melted than you desire. If the starter is of large size it will be necessary to hold it after taking it from the machine just a very short time before turning it over, thus giving it chance to cool a little.

### Getting Combs Built to the Bottom-Bars—Wintering Bees.

I have been keeping bees for 3 years, and have 15 colonies. I had 20 last fall, and lost 4. One was too light, and 1 queenless, so I united them. I hunted all my bees the first year, 7 swarms, and that was late (July 26), but they wintered well. I want to go right on and run for comb honey.

1. As I cut out all the crooked and drone comb, I saw all the combs are about 1 inch from the bottom-bar. I am thinking of tipping the hive upside down when in the best comb-building. Will that work? Will it make any difference if the honey is down and the brood up for 3 or 4 days? I think they will fasten it on, and then I would turn it over again.

2. Would it be better to winter bees outside, or in a cellar where I can't get the temperature over 33 degrees, and sometimes less than 31? WISCONSIN.

ANSWERS.—1. Yes, if you reverse the frames when bees are eagerly building comb, they will build to the bottom-bars, and there will be no trouble from having cells wrong side up for a few days.

2. It will probably be better to have them well packed outdoors than in a cellar never warmer than 33 degrees, unless you take them out every time it is warm enough for them to fly.

### Early-Reared Queens—Laying Workers.

Last fall I had 5 colonies of bees when winter commenced, but soon two of them died, which must have been queenless. One of the 3 that was left I wintered outside, but wrapped it up good, and put it in a warm place. The winter has been mild here, and this colony wintered all right. The other 2 colonies I put into the cave; it was cold in there, but not as cold as it was outdoors. I put them in about Dec. 1, and they did not have a flight until March 1. At first I did not give them enough air above, and they got damp and wet. When I took them out there was a lot of dead bees and mold on the bottom-board. I cleaned them all off, and the colony seemed to be weak and queenless. After a flight, I put them back until about March 17, then set them on the summer stands. I could not find a queen in one hive, while in the other the queen had gone to laying. I found one piece of comb with a few eggs and some larvae. I took this and gave it to the queenless colony. I tried to start a queen-cell or two by enlarging every other cell, but the bees did not care about my help. As soon as I gave them this comb they set up a hum such as I had not heard in 4 or 5 days. I looked at this comb and they had sealed all that was ready to seal, and had started 2 queen-cells; one had a larva in, but the other had nothing. All the rest of the eggs were gone, no sign of them left, and the bees had straightened up the cell that I had spoiled.

1. Will they rear themselves a good queen out of this? All the eggs were in worker-cells.

2. Will this queen be good, as there are no drones, and will not be for quite a while?

3. How can I save these bees? I have been thinking of giving them a frame of brood, now and then, from the other hives, as they increased. How would this do?

4. Will this queen lay before she mates with the drone? If she does, will her eggs hatch? If so, will they be drones, if laid in worker and queen cells.

5. How can she lay eggs, and what power have they to hatch? (Great is the mystery of bees!) I have read a small A B C book on

bees, and Dr. Miller's "Forty Years Among the Bees," and yet this worker-laying business is a conundrum to me. I also read the American Bee Journal, but this is one thing I cannot see into, and feeding the queen-egg royal jelly—where do they get that? They cannot get anything excepting what is inside of the hive. NEBRASKA.

ANSWERS.—1 and 2. Queens reared unusually early are not likely to be good, and the case will not be helped by the absence of drones.

3. By giving them sealed brood from time to time from other colonies you can build up this colony to be the strongest in the lot, and have them rear a good queen later on. But that will cost more than it will come to, for the gain to this colony will not balance the loss to the others. You will be the gainer in the long run if you will unite the queenless colony with another having a good queen, or perhaps dividing its forces between two or more colonies. Then when all become strong you can have a new colony or colonies, and have more bees by the middle of June than if you had tried to keep the queenless colony going.

4. She may or she may not lay before being fecundated; and if she does, all her eggs will produce drones even if laid in worker or queen cells.

5. A worker-bee is a female, but with reproductive organs not fully developed. Under certain circumstances not merely one worker but a large number of them will take up the egg-laying business; and there is no reason why the eggs should not hatch just as well as the unfertilized eggs of a queen, for the queen's eggs that produce drones are all unfertilized. The nurse-bees produce the royal jelly just as they produce the food for the worker-babies (the royal jelly is about the same thing as the food fed to the youngest workers or drone-larvae), by eating what they find in the hive—honey and bee-bread. You don't understand all about it—neither do I; I'm glad to learn what little I can, even if I don't fully understand it.

### Spacing Extracting-Frames—Plain Zinc Excluders—Porticoes on Hives.

1. During rainy weather I nailed up a lot of shallow extracting-frames, but when it came to spacing I stopped. The top-bars of these frames are  $\frac{3}{4}$  of an inch wide. If I space them with staples I believe those staples will always be in the way in the extractor. What is the quickest way to space such frames, when placing supers on the hives, and how far apart from center to center?

2. From reading, I see there must be queen-excluders of zinc in using extracting-supers. Is there room enough for the bees to crawl through if I lay the perforated sheet directly on top of the frames? or would it be better to lay  $\frac{1}{4}$ -inch slats across the frames, and the sheet on these?

3. Of what use is the portico on some styles of hives? IOWA.

ANSWERS.—1. With top-bars and end-bars only  $\frac{3}{4}$  wide, any spacer would likely be a good deal in the way when extracting, so loose-hanging frames may be the best thing under the circumstances. The quickest way to space will probably be by eye and finger. Practice will help greatly. While pushing each frame up to place it will help to let a finger be between this frame and the preceding frame; but if your eye is well trained you may not need the help of the finger. Extracting frames may be spaced anywhere from  $1\frac{1}{2}$  to 2 inches, although few would favor as much as 2 inches. Of course there should be uniformity in spacing.

2. Yes, there will be plenty of room for the bees to pass through if the sheet be laid directly on the top-bars.


3. It is supposed to protect from the wind any bees inclined to take a promenade on the alighting-board. It also furnishes a nice protection for spiders, and is not much used nowadays.

### Queen-Cell Cups—T Supers.

1. Are there queen-cell cups for sale in the market? Mr. W. H. Pridden said, in 1900, that the time is at hand when cell-cups will be on the market; but I have never seen them advertised. Do you use them? If so, are they a success? Would not old queen-cells do to breed in again if larvae and royal jelly were transferred into them? I would like to use cell-cups, but fear I have not ingenuity to make them.

2. I can't imagine what kind of T supers you use. You say in the Chicago-Northwestern convention report that it is in four pieces, and if you are not careful you will have those four pieces scattered around, etc. Now, I have been using T supers for years, and would not exchange them for any supers I ever saw. And as for the slotted section-holders, I would not have them as a gift. Mine are of a style made up by Elvin Armstrong. They were praised at the time, but he went out of the supply business years ago, and I have never seen any representation by any of the factories. The T's are supported by a strip at the bottom, and when the sections are on they can not get out of place. Then when the sections are all in I put a set of T's on top, and when they are all fastened in I could throw them over a fence and they would not come apart. If I had a starter on either side of the section I could put the super on either side. I could not get them made to order until I sent a sample to the factory. I think if you had them you would be satisfied with them. IOWA.

ANSWERS.—1. I don't know whether you can get cell-cups from dealers or not. I think they are not quoted in the catalogs. One year I bought quite a number from W. H. Pridden. They are a success, but where one is rearing queens merely for his own use, it is as well, or better, to let the bees start their own cell-cups, as described in

"Forty Years Among the Bees," page 240. Yes, you can use the old queen-cells. 

2. You can "imagine" my T supers "in four pieces" all right if you will call the super itself one piece and the T tins three more pieces, thus making four pieces. In other words, they are just about the same as yours, only instead of a single piece nailed on each side of the super to support the T tins, as you seem to have, the usual way is to have three small pieces on each side, one for each T tin. Instead of putting T tins on top, I put little pine sticks  $\frac{1}{4}$  inch by  $\frac{1}{8}$  or a little less than  $\frac{1}{8}$ . You might like this last better than T tins, as the tins probably cause more bee-glue on top. I don't understand how you could turn your super upside down without the sections falling out, as the T tins on top are probably not fastened there.

I am a little surprised at your not being able to get T supers, for they have been quoted in catalogs for years, and one leading catalog before me says: "This form of super is very popular with a large class of bee-keepers, and it is also used by some of the most extensive honey-producers in the world." I do not wonder at your preference for T supers over all others. Almost any one would prefer them if he would learn to use them properly.

If you read anything in the report that made you think I was not satisfied with the T super, it must be that I was wrongly reported, or expressed myself wrongly.

### Learning Queen-Rearing—Growing Basswood and Buckwheat.

1. Can a person learn queen-rearing from reading "Forty Years Among the Bees?" If so, in what particular does your method differ from that of Mr. Doolittle?

2. The writer had a prolific queen last season—she filled 13 Langstroth frames with brood, and her bees were golden Italians, but some time during August the color of many of the bees were very dark, and when the hive was opened a black queen was found, the old one having been superseded. Do bees sometimes destroy a valuable queen?

3. An Italian queen mates with a black drone, and the bees from her are more vicious than either pure black or pure Italians. Why?

4. How do bees take feed from the Doolittle division-board feeder?

5. If a colony has plenty of stores in the spring, will the uncapping of the honey cause them to increase the same as if they are fed sugar syrup?

6. Do you think basswood would be suitable to this climate?

7. If one should get basswood sprouts and set them out, provided they will live here, how long will they grow before they yield honey?

8. I have sown buckwheat, but have never been able to find any honey that the bees collected from it. The bees work on it only from about sunrise until the dew is off. Please tell me how to produce buckwheat honey.

KENTUCKY.

ANSWERS.—1. Yes, you can learn from "Forty Years Among the Bees" the way I rear queens; but if you want a book entirely devoted to that subject get Doolittle's "Scientific Queen-Rearing." It is the most comprehensive work on that subject that has ever been written. The difference between Mr. Doolittle's queen-rearing and mine is not in principles but rather in details, to give all of which would transgress the limit here allowed.

2. Yes, often. In the natural course of events, every queen is sooner or later superseded, no matter how worthless nor how valuable.

3. I don't know.

4. There is an opening at the upper part where they enter and readily crawl down to the feed. They would drown there in large numbers if it were not for the fact that a wall on either side is so close that they can easily crawl up.

5. It will have much the same effect.

6. Most likely.

7. Possibly 8 or 10 years.

8. I don't know of any other way to make buckwheat honey except to have the plants in plenty and let the bees work on it. You do not say how large a surface you sowed. A very small patch would hardly be a fair test. In the best buckwheat regions bees do not work on buckwheat late in the day, usually closing up some time in the forenoon.

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### FROM MANY FIELDS

#### Wintered Well.

My bees have wintered well so far. They are lying out at the entrance. I winter my bees on the summer stands. When I feed them I invert a bottle with feed in it, and a rag over the mouth of the bottle. In bad weather I nail a wire over the hive-entrance, so they can not come out. The bees are carrying in bee-bread now.

JAMES L. A. MILLER.

Gasconade Co., Mo., March 24.

#### Honey Season Too Long.

I had my first swarm to-day. I have 60 colonies. Last year I got 1800 pounds of honey from 45 colonies, although it was a bad year. It rained 14 days in May right in the middle of the honey-season. One drawback to honey-producing here is that our nectar yielding flowers bloom from January to November, making the season too long.

S. B. SINGLETARY.

Thomas Co., Ga., March 15.

#### Severe Winter and Loss of Bees.

This is the 4th year and I have not lost any bees in wintering until this year. I lost 24 colonies out of 39, all wintered on the summer stands. The most of them were packed top and sides, but it did not make any difference how they were protected. The warmer they were, the more they sweat. The single-walled hives had more chance to dry out and the bees in them came through better. I have gone to three other bee-men, and they have all had the same bad luck this winter. This is the coldest winter we have had for 20 years—22 below, and steady cold.

WM. M. SCARDEFIELD.

Union Co., N. J., March 18.

#### Honey Crop Prospects.

The prospects for a honey-crop the coming season are very much improved, so far as the Ojai Valley is concerned. Our rains which were due in November, did not arrive until the middle of January, and at that date the outlook was dark, but of late we have had

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some very fine rains, coming in a way to do the most good, and followed by good weather conditions. If we get a few more showers during the next 30 days, and other conditions are favorable, we may yet "pull off" a fairly good crop of honey. Bees are in fine shape, much better than at this time last year; breeding up fast, and in some cases actually putting new honey into the extracting-supers. Could we foretell what kind of weather we will have during the next few weeks, we might make a guess at the outlook for a crop. Probably it is better that we can not tell; so we will wait and do our part in getting ready for a busy season. Wm. Ross.  
Ventura Co., Calif., March 23.

### Severe Winter on Bees.

This winter has been very severe on bees in this locality. I have received accurate information from bee-keepers for several miles around, and also from Iroquois County, and all reports are about the same. Judging from the reports, fully 50 percent of all the bees around here are dead, not figuring on what will die between now and blossoms. It is true that all the bees were wintered on the summer stands, but some were well protected. They starved with plenty of stores, and to spare, but the cold spell was longer than they could stand, hence the results. However, with 50 percent left, and prospects for good pasturage, I see no reason why bee-keepers can not make it well, as there is no doubt but that honey will sell at a good price.

I seem to have been more fortunate than some of my friends, as I have lost, as yet, only 7 colonies, and the others seem to be fairly strong. H. S. DUBY.

Kankakee Co., Ill., March 21.

### Long Winter Confinement.

On page 151, Dr. Miller asks if any one ever had a colony of bees come through in good condition, out-of-doors, after a confinement to the hive of 100 days, without a cleansing flight. I have had seven years' experience in outdoor wintering here in Northern Wisconsin, and am able to give an answer to his question. Indoor wintering is preferable here, because the thermometer sometimes goes down to 30 degrees below zero; but if the bees are properly packed they will endure confinement to the hive of over 100 days very well. That, at least, has been my experience. I made a good bee-cellar and wintered my bees in this cellar until 1896, when I read in a paper that outdoor wintered bees are more hardy in the spring than those wintered in the cellar. I decided to give outdoor wintering a trial. In the fall I packed three colonies of bees in a winter-case, with about 4 inches of chaff around the hives and on top of them. They had no flight from December 12 until March 18, so they were confined 95 days. They all came through the winter, but in a very poor condition.

In 1897 I again packed my three colonies in the same way as the winter before. They were confined from November 16 to February 9, or 84 days. One colony was dead, and the other two very weak.

In 1898 I packed 10 colonies, but this time I put a chaff cushion on each side of the bees, inside the hive, and a Hill's device on top of the frames, over which a piece of burlap was spread. Now I put a super filled with chaff on the hive. I put a cover over the super, but left an open space of about 1/2 inch at the rear end of the super. I then placed each hive in a winter-case, and packed them with 3 inches of chaff on the sides and top, and put a waterproof cover on the case. This time the bees were confined from November 22 to February 17, or 86 days. They all came through the winter in fine condition.

In 1899 I again wintered 10 colonies, packed the same way. They were confined from December 3 to March 31, or 117 days, and all came through strong and healthy, except one colony that had a drone-laying queen. This one had dysentery in the spring and died.

In 1900 I packed 18 colonies as before. They were confined from November 14 to March 17, or 122 days. Two colonies were dead, but the other 16 colonies were in good condition, without any sign of dysentery.

In 1901 I wintered 18 colonies outdoors.

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They were confined from November 12 to February 23, or 102 days. All came through with no signs of dysentery.

In 1902 I wintered 24 colonies outdoors. They were confined from November 27 to February 10, or 74 days. There were some dysentery spots on the alighting boards, but all came through.

In 1903 I wintered 26 colonies outdoors. They were confined from November 12 until yesterday, or 105 days of very severe weather, with the thermometer most of the time around zero, and some of the time 30 degrees below. One colony is dead, 3 are showing signs of dysentery, and the other 22 colonies are in good condition. The three colonies affected with dysentery had a good flight, and I hope they will pull through. I have 61 colonies in the cellar, and there is no sign of dysentery on the hives up to date. Taking everything into consideration, I prefer cellar-wintering in a severe winter.

JOHN H. CLASEN.

Manitowoc Co., Wis., Feb. 29.

### Bees Not Wintering Well.

Bees are not wintering well so far. Some have lost all, some half, some none at all. One man who had 47 colonies has lost 25 so far. They were left on the summer stands, in single-walled hives. Some colonies had as high as 35 pounds of honey left. They must have chilled so that they could not reach their stores.

I have a few colonies, and they are well packed and all right so far. In this locality there was no fall honey to speak of, which necessitated feeding, and those who are not "onto their job" will lose heavily from the extreme cold and scarcity of food. My bees had their last flight on October 24, and their first flight this spring on March 7, and, in fact, that is the only flight they have had. My neighbor put 11 colonies in the cellar last fall, and by the first of February he had lost 7. The combs were all moldy and damp. He put the live ones in his chamber and is now feeding them. When it is warm, and the sun shines, they come out of the hive and fly to the food and fill themselves, and then go back. This room has two windows in the south, and the hives set with the backs to the partition, and face the south. Two of the 4 colonies are queenless, and they do not work. He feeds syrup in combs from which the honey has been extracted. It is quite a sight to open the door on a warm day and see them work, which they do quite lively.

PETER L. FRANCISCO.

Marathon Co., Wis., March 18.

### Outdoor Wintering of Bees.

Complying with Dr. Miller's request, pages 151 and 152, I will relate my experiences as to wintering bees out-of-doors. I must qualify this by stating that my bees were wintered in an open shed, facing the northeast, without any protection from that direction.

In April, 1880, I commenced with two colonies of hybrids, which I increased to 8 during the first season. Toward the end of the season I became aware that I had overdone the increasing business, but it was too late for me to correct the blunder, since I had not yet learned how to unite weak colonies quickly and successfully. I did not take a pound of honey away from them, but, instead, I fed cane-sugar syrup until the weakest colony had all of 15 pounds of winter stores, while the strongest colony had 30 pounds or over.

All the hives were hand-made by myself, and of 8-frame capacity (American frames, 11½x11½), but single-walled. A super 6½ inches deep was left on the hive, which was well packed with absorbents. Three cross-pieces were placed on the brood-frames, to allow the bees to pass from one comb to another, over which a clean sheet of burlap was spread. Next was spread a heavy woolen quilt, and then a bag of oats-chaff completed the packing for the winter. The telescoped covers were provided with 4-inch holes (screened), so as to permit accumulating moisture to escape. Thus prepared, my bees remained without a single flight from Nov. 15, 1880, until March 1, 1881—fully 106 days. Four colonies showed more or less dysentery,

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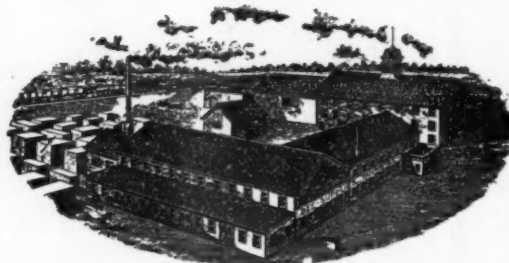
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and spotted the front of their hives, so I transferred them into clean, new hives, March 22. Two, mere nuclei, spring dwindled and soon succumbed, having too few bees. But the 6 colonies soon made good headway.

I very soon learned that for the production of extracted honey, for this locality, a much larger hive, and double-walled at that, is much to be preferred to small, single-walled hives. While I still have a number of small pioneer hives, I have placed them in the upper tier in my bee-shed, and use them exclusively for the rearing of queens. All of my regular hives carry 14 combs, 11 1/2 x 11 1/2, and 2 division-boards in the brood-chamber, and all are double-walled. The bees have always wintered in them to my perfect satisfaction. I hardly ever move a hive, and the queens are always kept in the same hive and location, as long as they are in good service.

Before concluding I will say that the winter of 1880-81 was an exceptionally cold one, and that deep snow covered the ground from the middle of November, 1880, until the middle of March, 1881. During that winter the thermometer frequently went away below 30 degrees below zero, and once as low as 40 degrees below. In fact, that winter was the coldest of any winter during the 24 years that I have kept bees. WM. STOLLEY.

Hall Co., Nebr., Feb. 27.

### A Queen Mated but Once.

On page 151, I see the question, "Are queens fertilized more than once?" From observations during all my experience with bees, I can say that there is no such thing. It is against nature. If a queen does not fulfill her duty, she will soon be superseded without notice. I remember reading an article in the Bee Journal last year, where a bee-keeper positively saw a queen come home twice, and both times successfully mated. Under no conditions is this possible. In the first place, a queen is not in a hurry to go out. Often she has to be driven out by the other bees. She will come out into one corner of the hive and then slip back into the other, until she is forced to go. She takes the location of the hive and starts off singly to take a flight, when she is met by a drone, when a chase begins. She will try her best to get away if possible, but a drone can out-fly a queen every time, and as soon as she is caught they naturally fall to the ground. I have seen them struggle for 10 minutes before the queen would give up. I can tell that gentleman how he saw his queen successfully mated twice. When a prime swarm issues there are two or three queens ready to come out. While it is not always the case, it often happens. As soon as the old queen leaves, one of the new queens will take possession, and when she flies out to be mated, one of the other queens will slip out and also take possession, and when the first one comes back all worn out from her flight, what does she find but that some one else has taken her place, and a fight is sure to follow, and she being worn out, is sure to be killed, and so the next one will have to take her flight? Of course that would cause a man to believe that one queen was mated twice. If he had looked in front of the hive he surely would have found the dead queen.

I would like to hear from Dr. C. C. Miller, and others, on this subject.  
LaSalle Co., Ill. P. H. HARBECK.

### Results of the Winter—Hives.

I must tell the good news that I have not lost a colony of bees during the past winter. This is my second winter with bees. Last year I lost one colony of my five, and this year all my 11 colonies are alive, although 2 of them are somewhat weak. These 2 I shall double up with some strong colony and keep the best queen. There seems to be little honey left in the brood-chambers. All my bees are in Danzenbaker hives. Five colonies I wintered in the open air, protected from the cold wind by a house and fence, besides having an 11-inch telescope cap, with four inches of chaff over the frames. The other 6 I had in a "pit" above ground, covered with dry leaves about a foot deep all around. These 6 I gave a 1/2-inch entrance, but covered with a



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wire-screen to within  $\frac{1}{4}$  inch from the bottom, to prevent mice and rats getting inside. The hives stood on planks raised about a foot from the ground. All the 11 hives had an empty super underneath the single brood-chamber, but I think a double brood-chamber is still better. I shall not put bees in a pit again, as all the colonies lost quite a number of bees during the winter—about a pint each, or perhaps a pint and a half. Those wintered outdoors did not lose quite so many.

The date of the last flight of my bees last fall was the day before Thanksgiving, while February 6 was the first day they could fly this year, making a continuous confinement lasting 10 weeks.

These last two seasons with my bees I always had to feed in the fall, and used sugar syrup therefor. But this year I am going to take off all sections, except the unfinished ones by the first of September, and then let the bees fill their brood-chambers full during the following two months, so that they will have plenty of good stores for the winter. Some say that sugar syrup is as good as, if not better than, honey for the bees, but I doubt it very much. If honey contains so much more nourishment,

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**A. COPPIN, Wenona, Ill.**

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and is so much more healthful than sugar for man, why is it not so for the bees? I think, especially when rearing brood in the spring, if bees can use honey in preparing the larval food, the resulting young bees will be much stronger and healthier.

By the way, I have been investigating Massie's Ideal 20th Century hive lately, and I have been favorably impressed with it, and shall certainly give it a trial the coming season. I use the Danzenbaker hive, and like it very well excepting a few things. First, hanging brood-frames in the center prevents one from hanging a single frame by itself; if done, it will whirl bottom side up quick as a flash, angering the bees. Second, the section-holders, with side pieces, are no end of bother. Either the sections are too tight and you have to wedge them in by sheer force, which results in their being squeezed into diamond-shape, or they are so loose as to fall out. I have found this is caused by not all sections being of exactly the same thickness. The third disadvantage of the Danzenbaker hive is its cover. Both last year's covers and the one of the year before are good only for kindling wood. Last summer I bought 30 air-space, paper-covered covers, but find that they warp at the sides, leaving sometimes as much as  $\frac{1}{4}$ -inch space. All these disadvantages are done away with in the Massie hive. Still, one never knows how a thing will turn out until he has given it a practical trial.

I find the American Bee Journal very interesting, especially the convention reports.

CHARLES B. ACHARD.

Dupage Co., Ill., March 24.

### Bees Wintered Well.

My bees all wintered well. They have plenty of stores. The strong colonies have been at work bringing in stores for the past two weeks. Peaches, plums and cherries are just beginning to bloom. J. W. SMITH.

Dade Co., Mo., March 19.

### Selling Adulterated Honey.

The editorial on page 195, giving an experience in locating the author of the item that appeared in the Inter-Ocean, in which it was claimed that comb honey was extensively manufactured and adulterated, fully demonstrates that there is a portion of the consuming public capable of being prejudiced against a pure article, utterly incapable of being counterfeited or adulterated. Now such being the case, what can be the result of the nefarious practice of unscrupulous impostors in adulterating extracted honey, and selling the same for a pure article? Every pound of the adulterated article sold prevents the sales of a like amount of pure honey in the first transaction; but that is the least of the bad effect of such practice, as the purchaser of the adulterated article is likely to become disgusted with it, conclude that he does not like honey, and refuse to purchase any more, although a pure article were offered him. The consumer, who purchases pure honey, soon cultivates a taste for it which no other sweet can replace, with the consequent increased consumption and demand.

I will give my personal observation of some of the sharp practices of unscrupulous persons in imposing bogus honey on consumers in this country. A faker travels from town to town and applies his graft as follows: He purchases a small amount of comb honey in sections, then makes a syrup of a large amount of glucose and a small amount of sugar heated just enough to melt the sugar, and when cool

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enough that the comb will not melt he crumbles the comb honey into the mixture in fine particles and mixes thoroughly. He then sells this mixture from house to house, as pure honey, and it is no surprise that the purchaser of such an article concludes that he does not like honey. The knowledge of such practice being imposed upon persons not competent to protect themselves against such frauds, demonstrates to my mind that a great amount of good can be done by the honest producers in protecting the innocent buyer, and at the same time increasing the consumption of pure honey. As in the fraud just described, a person familiar with pure honey could not have been deceived, as the very point that effected the sale to the unsophisticated buyer (the small pieces of comb in the mixture) would have appealed to the mind of one familiar with pure honey, as put up by an honest producer, that there was a fraud, without tasting of it, as chunk honey has more than a sprinkle of comb in it, while extracted honey is free from the presence of comb. Now if producers of honey would each personally use their influence to expose all adulterations sold for honey, coming under their notice, not only through the bee-papers, but in local publications, it would serve a double purpose, by educating the consumers to judge of pure honey, and thus prevent their being imposed upon and cheated, and at the same time increase the demand for the purest, best and nearest to nature of all sweets on earth—honey.

R. H. BUCHNER.

Jackson Co., Iowa.

## CONVENTION NOTICES.

New York.—The annual spring meeting of the Fulton and Montgomery Counties Bee-Keepers' Society will be held in the parlors of the Central Hotel, at Amsterdam, N. Y., Tuesday, May 3, at 10 o'clock a.m.

West Galway, N. Y. T. I. DUGDALE, Sec.

Illinois.—The Galesburg and Knox County Bee-Keepers' Association will hold its spring meeting April 30th, beginning at 9 a.m., at the Court House at Galesburg, Ill. All bee-keepers are cordially invited to attend.

E. D. WOODS, Sec

## Take Notice

That the New Century Queen-Rearing Co. will have 1000 Queens ready for the mail by April 20. Tested, \$1.00; Untested, 75c; 5 for \$3.25; 10 for \$6.00. Prices on larger quantities and Nuclei given on application. "Prompt service; fair treatment" is our motto.

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**Buckbee's New Seed Warehouse.**—The accompanying engraving will give our readers a look at the new seed warehouse of H. W. Buckbee, of Rockford Seed Farms, Rockford, Ill. The new building is a four-story stone and brick structure, is modern in architecture, and was planned by Mr. Buckbee, whose experience of over a quarter of a century in the seed-business enabled him so to plan this building that it has been pronounced by many of his friends, as well as competitors, the most complete and modern seed-house in America. The building is located on one of the Rockford Seed Farms. The equipment is simply perfection. Mr. Buckbee has excellent shipping facilities,



three railroads passing along two sides of the building. The building is so arranged that the seeds are taken in on the first floor and then carried by elevators to the portions of the building where they belong.

Mr. Buckbee entered the seed business at the age of 11 years, when he was known as the "cabbage-plant boy" of Rockford. That is how Buckbee started with cabbage, and it is a conceded fact that Buckbee knows more about cabbage than any other man in America to-day. We believe that it is true that he is equally well posted on all other seeds for farm and garden. Mr. Buckbee also loves flowers, and his fields where he plants for seeds are certainly a wonder to behold. His greenhouses are a delight and marvel to all visitors. Buckbee's record was in November, 1903—chrysanthemum plants and flowers at the New York City Chrysanthemum Show—9 first prizes and 14 second prizes.

The new Buckbee catalog is handsome, and more useful than ever. It should be in every home. Write to-day to H. W. Buckbee, Dept. L. 85, Rockford, Ill., mention this paper, and receive his beautiful seed and plant guide absolutely free.

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## HONEY AND BEESWAX

MARKET QUOTATIONS

CHICAGO, April 7.—The market is heavily supplied with comb and extracted honey, neither of which are meeting with any demand, especially is this true of the comb. Prices are uncertain, as those having stock are anxious to sell it; therefore it is difficult to quote prices. The best grades of white comb bring 11@12c; anything off from choice to fancy is not wanted. Extracted, white, according to quality, sells at 6@7c; amber, 5@6c. Beeswax, 30@32c.

R. A. BURNETT &amp; Co.

CINCINNATI, O., April 18.—The honey market continues to be dull; if anything, the prices on comb honey are lower; concessions are made on bigger lots. I quote: fancy white comb from 12@14c. Sales on extracted are made at the following prices: Amber, in barrels, 5@5½c; in cans, ½c more; alfalfa, water-white, 6@6½c; strictly white clover, for extra fancy, 7@8c. Beeswax, 30c.

C. H. W. WEBER.

PHILADELPHIA, April 18.—Never in the history of the comb honey market has there been such a lot of off-quality of comb honey shipped into this market so late in the season. We have sold some of our own honey in the last few days, good No. 1 as low as 6c a box, the same honey we were getting 14c for 60 days ago. It is the old story that when bee-men find the season is closing and they cannot get shut of the crop themselves, they send it to the commission-men to slaughter it at any price they can get. We quote: No. 1 comb, 10c; amber, 7@8c. Extracted, fancy white, 7½c; amber, 6c. Beeswax sells readily at 31c.

We are producers of honey and do not handle on commission.

WM. A. SELSER.

CINCINNATI, April 18.—The honey market here is reassuring activity, and judging from present indications, and the lateness of the season, the last season's crop will be consumed before the arrival of the new. Amber extracted in barrels and cans, 5@6½c; white clover, 6½@8 cents, according to quality and package. Fancy comb honey sells at 12@15c. Beeswax, 30 cents.

THE FRED W. MUTH CO.

ALBANY, N. Y., Mar. 25.—Honey market dull and getting late; demand falling off for comb honey now. So much comb honey is out of condition, being candied hard in the combs makes most unsalable. We quote: 8@12c; nominal now. Extracted, white, 6½@7c; amber, 6@6½c; buckwheat, 5@5½c. Beeswax 28@30c.

H. R. WRIGHT.

BOSTON, April 9.—Prices remain same as before, which are as follows: White in glass-front cases at 16c; No. 1, at 15c. Supply is ample, and demand light at this time. Extracted, water-white, 8c; light amber, 7@8c; with but little call for dark Florida.

BLAKE, SCOTT &amp; LEE.

KANSAS CITY, April 18.—The demand for honey is a little better than it has been. Prices on strictly fancy comb are \$2.50 per case, if not candied; the great trouble with the majority of honey coming from the West at present is that it is more or less candied, and about \$2.00 to \$2.25 is all we can get for it; amber is selling at \$2.25 per case. Extracted is dull at 5@6c. Beeswax in good demand at 30c.

C. C. CLEMONS &amp; Co.

NEW YORK, April 18.—There are no new features in the honey market. Some white honey is selling at from 12@13c; off grades at from 10@11c, and no demand for dark honey whatever. Market is very quiet on extracted of all grades, and prices are rather irregular. Beeswax very firm at 29@31c.

HILDRETH &amp; SEGELKEN.

SAN FRANCISCO, March 30.—White comb, 1-lb. frames, 11½@12c; amber, 8@10c. Extracted, white, 5½@5¾c; light amber, 4½@4¾c; amber, 3½@4c; dark amber, 3¼@3½c. Beeswax, good to choice, light, 27½@29c; dark, 25@26c.

The market is showing very little life, buyers operating slowly, either for shipment or on local account. Such transfers as are effected are at much the same prices as lately current, although the general tone is by no means firm.

## HONEY AND BEESWAX

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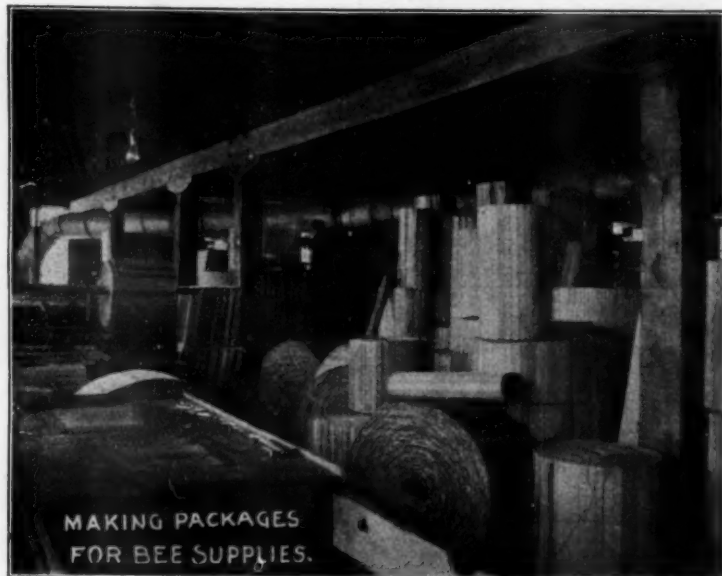
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